Online Table 1: Characteristics of cohort, stratified by prolonged post-discharge opioid use status*

	Prolonged Post-Discharge Opioid Use		P-Value
	Absent N = 37, 911	Present N = 1229	
Demographics			
Age (y), mean (SD)	73.3 (5.7%)	73.0(5.5%)	0.05
Female sex	18,199 (48.0%)	554 (45.1%)	0.04
Neighbourhood income quintile			
First (lowest)	6493 (17.1%)	248 (20.2%)	
Second	7726 (20.4%)	283 (23.0%)	
Third	7526 (19.9%)	250 (20.3%)	<0.001
Fourth	7948 (21.0%)	222 (18.1%)	
Fifth (highest)	8218 (21.7%)	226 (18.4%)	
Rural residence	5943 (15.7%)	187 (15.2%)	0.66
Surgical Procedure			
CABG	9178 (24.2%)	310 (25.2%)	
MI lung resection surgery	675 (1.8%)	45 (3.7%)	
Open lung resection surgery	2218 (5.9%)	205 (16.7%)	
Colorectal surgery MI	3100 (8.2%)	102 (8.3%)	
Colorectal surgery open	8404 (22.2%)	238 (19.4%)	<0.001
Hysterectomy MI	5209 (13.7%)	78 (6.3%)	
Hysterectomy open	4080 (10.8%)	105 (8.5%)	
Prostatectomy (open and MI)†	5047 (13.3%)	146 (11.9%)	
Comorbid Disease			
Coronary artery disease	11,335 (29.9%)	400 (32.5%)	0.05
Heart failure	1276 (3.4%)	64 (5.2%)	<0.001
Cerebrovascular disease	646 (1.7%)	27 (2.2%)	0.19
Peripheral vascular disease	725 (1.9%)	26 (2.1%)	0.61
Diabetes	9780 (25.8%)	376 (30.6%)	<0.001
Hypertension	27,426 (72.3%)	934 (76.0%)	0.005
Pulmonary disease	981 (2.6%)	70 (5.7%)	<0.001
Renal disease	1145 (3.0%)	45 (3.7%)	0.20
Malignancy			
Primary	9589 (25.3%)	341 (27.7%)	0.03
Metastatic	334 (0.9%)	20 (1.6%)	
Preoperative Medications			
Benzodiazepine	4330 (11.4%)	188 (15.3%)	<0.001

SSRI	1483 (3.9%)	73 (5.9%)	<0.001
Beta blocker	12,194 (32.2%)	434 (35.3%)	0.02
Statin	15,999 (42.2%)	566 (46.1%)	0.01
ACE inhibitor	12,095 (31.9%)	473 (38.5%)	<0.001
Angiotensin receptor blocker	5247 (13.8%)	178 (14.5%)	0.52

Abbreviations: ACE, angiotensin-converting-enzyme; CABG, coronary artery bypass graft; MI, minimally invasive; SD, standard deviation; SSRI, selective serotonin re-uptake inhibitors

* Values are expressed as number (percentage) unless indicated otherwise
† Subgroup-specific results for open versus minimally invasive prostatectomy are not presented due to privacy regulations regarding the reporting of small numbers of individuals within subgroups

Online Table 2: Adjusted association of patient-level and surgery-level factors with prolonged post-discharge opioid use in sensitivity analysis including only individuals who survived at least 180 days after surgery*

	Adjusted Odd Ratio (95% CI)	P-Value
Demographics		
Female sex	1.10 (0.95 to 1.27)	0.21
Age		
66 years to 75 years	1.53 (1.00 to 2.32)	
76 years to 85 years	1.38 (0.91 to 2.11)	0.08
86 years or older	Reference	
Income quintile		
1 (lowest)	Reference	
2	0.95 (0.80 to 1.14)	
3	0.88 (0.73 to 1.05)	0.005
4	0.75 (0.63 to 0.91)	
5 (highest)	0.76 (0.63 to 0.92)	
Rural residence		
Urban	Reference	0.56
Rural	0.95 (0.81 to 1.12)	
Surgical Procedure		
Radical prostatectomy		
Open prostatectomy	Reference	
MI prostatectomy	0.37 (0.14 to 1.01)	
CABG via sternotomy	0.94 (0.69 to 1.27)	
Intra-thoracic surgery		
Open lung resection	2.67 (2.10 to 3.40)	
MI lung resection	1.93 (1.34 to 2.77)	<0.001
Intra-abdominal surgery		
Open colorectal surgery	0.85 (0.67 to 1.08)	
MI colorectal surgery	0.99 (0.75 to 1.31)	
Total hysterectomy		
Open hysterectomy	0.73 (0.54 to 0.98)	
MI hysterectomy	0.45 (0.33 to 0.62)	
Comorbid Disease		
Coronary artery disease	0.98 (0.77 to 1.25)	0.86
Congestive heart failure	1.36 (1.02 to 1.79)	0.03
Cerebrovascular disease	1.06 (0.70 to 1.58)	0.80

Peripheral vascular disease	0.87 (0.58 to 1.31)	0.50
Diabetes	1.16 (1.01 to 1.32)	0.03
Hypertension	1.05 (0.91 to 1.22)	0.51
Pulmonary disease	1.64 (1.26 to 2.14)	<0.001
Renal disease	1.12 (0.82 to 1.54)	0.48
Malignancy		
Primary	1.06 (0.92 to 1.23)	0.21
Metastatic	1.49 (0.93 to 2.38)	
Preoperative Medications†		
Benzodiazepine	1.27 (1.08 to 1.50)	0.005
SSRI	1.39 (1.08 to 1.79)	0.01
Beta blocker	1.07 (0.92 to 1.23)	0.35
Statin	0.98 (0.86 to 1.12)	0.75
ACE inhibitor	1.28 (1.11 to 1.47)	<0.001
Angiotensin receptor blocker	1.09 (0.91 to 1.30)	0.34

Abbreviations: ACE, angiotensin converting enzyme; CABG, coronary artery bypass graft; MI, minimally invasive; NA, not applicable; SSRI, selective serotonin re-uptake inhibitors

* Multivariable logistic regression model used for these analyses had good calibration (Hosmer-Lemeshow statistic P=0.88) and modest discrimination (c-statistic 0.64)
† Outpatient prescription within 90 days before index surgery